

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:  
detection means for detecting an image area excluding  
a frame image contained in an input image;

5 generation means for generating correction  
information of the detected image area; and

correction means for correcting the image area on the  
basis of the generated correction information.

2. The apparatus according to claim 1, wherein when  
10 pixels adjacent to a pixel of interest satisfy a  
predetermined condition, said detection means determines  
that the pixel of interest constructs the frame image.

3. The apparatus according to claim 2, wherein said  
15 detection means identifies the image area other than the  
frame image on the basis of a detection result of the pixel  
constructing the frame image and supplies information  
representing the identified image area to said generation  
means and said correction means.

4. The apparatus according to claim 3, wherein said  
20 detection means scans the image in a horizontal direction  
in units of columns and detects, as two ends of the image  
area in the horizontal direction, a first column having a  
pixel determined not to construct the frame image and the  
next column having a pixel determined to construct the frame  
25 image.

5. The apparatus according to claim 3, wherein said

detection means scans the image in a vertical direction in units of rows and detects, as two ends of the image area in the vertical direction, a first row having a pixel determined not to construct the frame image and the next  
5 row having a pixel determined to construct the frame image.

6. The apparatus according to claim 3, wherein after correction by said correction means is ended, said detection means executes identification processing of an image area other than the frame image again.

10 7. The apparatus according to claim 1, wherein said generation means generates, as the correction information, highlight and shadow points and white and black balances of the image area.

15 8. The apparatus according to claim 7, wherein said correction means corrects gradation of the image area on the basis of the highlight and shadow points and the white and black balances, which are generated by said generation means.

20 9. An image processing method comprising the steps of:  
detecting an image area excluding a frame image contained in an input image;

generating correction information of the detected image area; and

25 correcting the image area on the basis of the generated correction information.

10. The method according to claim 9, wherein the

detection step comprises, when pixels adjacent to a pixel of interest satisfy a predetermined condition, determining that the pixel of interest constructs the frame image.

11. The method according to claim 10, further comprising  
5 the steps of:

identifying the image area other than the frame image on the basis of a detection result of the pixel constructing the frame image; and

10 supplying information representing the identified image area for generation processing of the correction information and correction processing of the image area.

12. The method according to claim 11, wherein the detection step comprises scanning the image in a horizontal direction in units of columns and detecting, as two ends  
15 of the image area in the horizontal direction, a first column having a pixel determined not to construct the frame image and the next column having a pixel determined to construct the frame image.

13. The method according to claim 11, wherein the  
20 detection step comprises scanning the image in a vertical direction in units of rows and detecting, as two ends of the image area in the vertical direction, a first row having a pixel determined not to construct the frame image and the next row having a pixel determined to construct the frame  
25 image.

14. The method according to claim 11, wherein after

correction processing is ended, identification processing of an image area other than the frame image is executed again.

15. The method according to claim 9, wherein the  
5 generation step comprises generating, as the correction information, highlight and shadow points and white and black balances of the image area.

16. The method according to claim 15, wherein the  
10 correction step comprises correcting gradation of the image area on the basis of the highlight and shadow points and the white and black balances, which are generated in the generation step.

17. A computer program product comprising a computer  
15 readable medium having computer program code, for executing image processing, said product comprising:

detecting procedure code for detecting an image area  
excluding a frame image contained in an input image;

generating procedure code for generating correction  
information of the detected image area; and

20 correcting procedure code for correcting the image  
area on the basis of the generated correction information.